

REMARKS

Amendments to the Specification

Applicants have amended the specification to include SEQ ID NOs for the sequences shown in Figures 12A, 12B and 19. Support for the amendment is found in the Sequence Listing and in Example 9, paragraph [0101] and in Example 12, paragraph [0116] of U.S. Patent Application Publication No. 2004/0220130 (“the ‘130 patent publication” hereafter).

Amendments to the Drawings

Applicants have submitted herewith a replacement drawing sheet with a new copy of Figure 7 that is a lighter exposure of the original drawing sheet showing Figure 7.

Amendments to the Claims

Applicants have amended claim 1 to recite that the vector is less than or equal to about 135 basepairs. Support for the amendment is found in claim 20 as originally filed (now canceled herein), paragraph [0054] and in examples 5, 6, etc., of the ‘130 patent publication.

Applicants have canceled claims 20 and 21 herein without prejudice. Applicants hereby further clarify that claims 23-29, previously withdrawn as being drawn to nonelected subject matter, are canceled. Applicants canceled claims 23-29 in the July 11, 2007 Response, as indicated in the Listing of Claims. Applicants reserve the right to pursue canceled or withdrawn subject matter in any application that claims priority to the instant application.

Applicants have amended claim 22 to recite “an isolated” host cell.

Applicants have amended claim 30 to depend from claim 1 and to recite “wherein the one or more pairs of overlapping oligonucleotides are annealed to form a double-stranded DNA molecule.” Applicants have amended claims 32 and 33 to depend from claim 1 and to recite that the oligonucleotides are ligated extracellularly (claim 32) or intracellularly (claim 33). The amendments are supported by claims 24 and 25 as originally filed.

In sum, upon entry of this amendment, claims 1-5, 14, 15, 17, 18, 19, 22 and 30-31 will be pending, claims 6-13 and 16 having been withdrawn, as being drawn to nonelected subject matter.

No new matter is introduced by way of this amendment; it's entry is respectfully requested.

THE OFFICE ACTION

The Election/Restriction

The Examiner has acknowledged the election of Group I (claims 1-22 and 30-32). The Examiner further states that claims 6-13 and 16 are withdrawn, as being drawn to nonelected subject matter. Should the generic claims be found allowable, the Examiner states that Applicants will be entitled to consideration of claims to additional species that depend from or otherwise require all limitation of an allowable generic claim.

The Sequence Compliance

The Examiner states that the application fails to comply with the requirements of 37 C.F.R. § 1.821-1.825. Specifically, the Examiner states that Figures 12A, B and 19 contain sequences not identified by SEQ ID NOs identifiers. In response, Applicants provide herewith amended paragraphs [0029] and [0036] of the '130 patent publication that recite the SEQ ID NOs as requested by the Examiner. Applicants respectfully submit that the application is now in compliance with the requirements of 37 C.F.R. § 1.821-1.825.

The Drawings

The Examiner has objected to Figure 7 under 37 C.F.R. § 1.83(a) because the figure allegedly fails to show any details as described in the specification. The Examiner states that the image is too dark and thus no details are discernible. In response, Applicants provide herewith a replacement drawing sheet of Figure 7, clearly showing the details described in the specification. As such, Applicants respectfully request the objection be withdrawn.

The Rejection Under 35 U.S.C. § 101

The Claims are Directed to Statutory Subject Matter

The Examiner has rejected claim 22 under 35 U.S.C. § 101 as allegedly not directed to statutory subject matter. The Examiner contends that the term "cells" defined by the specification, would include a human being. The Examiner suggests including the recitation of "non-human" or "isolated" to overcome the rejection.

Applicants appreciate the Examiner's suggestion and have amended claim 22 herein to recite "isolated cell." Accordingly, Applicants respectfully request the rejection be withdrawn.

The Rejection Under 35 U.S.C. § 112, Second paragraph

The Claims are Definite

The Examiner has rejected claims 30-32 as being indefinite under 35 U.S.C. § 112, 2nd paragraph. The Examiner notes that claims 30-32 are drawn to canceled claims and thus lack antecedent basis. In response, Applicants have amended claims 30-32 to provide proper antecedent basis therefor. In view of the amendments, Applicants respectfully submit that the claims are definite. Accordingly, Applicants respectfully request that the rejection be withdrawn.

The Rejection Under 35 U.S.C. § 112, First Paragraph

The Claims are Enabled

The Examiner has rejected claim 20 under 35 U.S.C. § 112, first paragraph, as allegedly not enabled by the specification, for the reasons set forth on pages 5-7 of the instant Office Action. Briefly, the Examiner contends that the specification does not provide sufficient guidance to make a vector less than 135 basepairs. Applicants respectfully traverse this rejection.

Without acquiescing to the propriety of this rejection, and solely to advance prosecution, Applicants have canceled claims 20 and 21, rendering the rejection thereto moot.

As noted above, Applicants have amended claim 1 to recite that the vector is less than or equal to about 135 basepairs. As amended, Applicants respectfully submit that the claims are enabled by the specification. In particular, numerous examples in the specification disclose making a vector of the instant invention of a length less than or equal to about 135 basepairs. For example, Examples 6 and 7 disclose methods for reducing the vector size by altering the human pol III promoter regions (Example 6), or altering the portion of the vector encoding the primary transcript (Example 7). Example 9 discloses a synthetic vector that ranges from 90 bases to 130 bases. Example 15 discloses vectors of 130 and 129 basepairs in size. Thus, as disclosed and exemplified in the instant specification, synthetic vectors of the present

invention are less than or equal to about 135 basepairs. Applicants respectfully submit that one of ordinary skill in the art would know be able to practice the invention with the guidance provided in the specification without undue experimentation.

The Rejection Under 35 U.S.C. § 102(b)

The Claims are Not Anticipated by Brummelkamp as Evidenced by Oligoengine, or by Meissner

The Examiner has rejected claims 1-5, 15, 18, 21 and 22 as allegedly anticipated by Brummelkamp *et al.* (*Science* 2002, vol. 296, pp 550-553; “Brummelkamp” hereafter) as evidenced by Oligoengine, for the reasons set forth on pages 7-8 of the instant Office Action. The Examiner contends that Brummelkamp teaches a vector comprising overlapping oligonucleotides, comprising a RNA promoter, a region to be transcribed into a RNA molecule and a termination signal. And, while the Examiner admits that the vector is circular, the Examiner alleges that “any circular vector can be linearized.”

The Examiner has also rejected claims 1-3, 15 and 19 and 22 as allegedly anticipated by Meissner *et al.* (*Nucleic Acid Res.* 2001, vol. 29, pp 1672-1682; “Meissner” hereafter), for the reasons set forth on page 8 of the instant Office Action. The Examiner contends that Meissner teaches a vector comprising overlapping oligonucleotides, comprising a RNA promoter, a region to be transcribed into a RNA molecule and a termination signal. As with Brummelkamp, the Examiner alleges that “any circular vector can be linearized.” Applicants respectfully traverse both rejections.

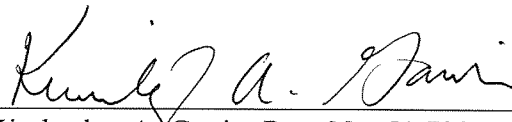
To support a rejection under 35 U.S.C. § 102(b), a single reference must teach each and every element of the rejected claim. Here, Applicants submit that neither Brummelkamp, as evidenced by Oligoengine, nor Meissner disclose a vector as presently claimed in claim 1. At a minimum, neither Brummelkamp nor Meissner disclose a synthetic double-stranded deoxyribonucleic acid (DNA) vector comprising one or more pairs of chemically-synthesized, overlapping complementary oligonucleotides, wherein the vector is less than or equal to about 135 basepairs in length and comprises a ribonucleic acid (RNA) promoter, a region to be transcribed into a RNA molecule, and a transcriptional termination sequence. For this reason alone, Applicants respectfully request that the rejection of claim 1 be withdrawn.

Further, because neither Brummelkamp in view of Oligoengine, nor Meissner anticipates claim 1, Applicants submit that the rejected claims that depend from claim 1 are likewise not anticipated by the references. As such, Applicants respectfully request that the Examiner withdraw the rejection of claims 1-5, 15, 18, 19, 21 and 22 as anticipated by Brummelkamp. Likewise, Applicants respectfully request that the Examiner withdraw the rejection of claims 1-3, 15, 19 and 22 as anticipated by Meissner.

Conclusion

Applicants believe that no fee is due in connection with the filing of this response. If any additional fee is due, or overpayment made, with regard to this Response, the Transmittal and Fee Transmittal (submitted in duplicate herewith) authorizes the Director to charge any such fee, and credit any overpayment, to Deposit Account No. 02-4377.

Respectfully submitted,



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Appendix

One (1) Replacement Drawing Sheet